



An Energy Efficiency Workshop & Exposition

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Kansas City, Missouri

***Financial Analysis for Federal Energy  
Efficiency Projects***

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# ***Energy Projects Financial Analysis***

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- **Types of Financing**

- Construction period
  - Hedge vs. Escrow
- Term financing

- **Spreadsheet Solutions**

- Examples - Hedge and Escrow

- ***Hedge fixed and floating rate***
  - Fixed rate vs. indexed rate
  - Accrue interest
  - Add to project cost
  - Payments begin after Gov't. acceptance

- **Escrow funding**

- Fix rate & fund entire project cost + interest during construction into escrow
- Draw down during construction
- Payments begin after Gov't. acceptance

- **Escrow funding**
  - Rate fixed at project inception
- **Hedge fixed rate funding**
  - Rate fixed at project inception
  - Rate fixed through interest hedge product
- **Hedge floating rate funding**
  - Rate fixed at acceptance at index + fixed adder
  - Rate fixed through interest hedge product



## ***Escrow Financing Example***

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<b>Escrow Project Financing Example</b>		
<b>Monthly Draws</b>		
<b>Assumptions</b>		
	<b>Interest Rate:</b>	<b>8.000%</b>
	<b>Draw Total:</b>	<b>\$10,000,000.00</b>
<b>Capitalized Finance Charges:</b>		<b>\$632,093.86</b>
<b>Total Amount Financed:</b>		<b>\$10,632,093.86</b>
<b>Monthly Payments:</b>		<b>\$128,996.64</b>
<b>Payment Term (in months):</b>		<b>120</b>
<b>Total Annual Payments:</b>		<b>\$1,547,959.65</b>
	<b>Total Payments:</b>	<b>\$15,479,596.45</b>



# Escrow Financing Example

Escrow Funding						
Monthly Draws						
			Interest Rate:	8.00%		
			Reinvestment Rate:	3.00%		
			Total Draws:	\$10,000,000.00		
			Capitalized Finance Charges:	\$632,093.86		
			Total Amount Financed:	\$10,632,093.86		
Month	Date	Percent	Total Draw Amount	Interest Income	Interest Expense	Escrow Balance
0	01-Jun-01	8.33%	\$833,333.33			\$9,798,760.53
1	01-Jul-01	8.33%	833,333.33	\$24,496.90	\$70,880.63	8,919,043.46
2	01-Aug-01	8.33%	833,333.33	22,297.61	70,880.63	8,037,127.11
3	01-Sep-01	8.33%	833,333.33	20,092.82	70,880.63	7,153,005.97
4	01-Oct-01	8.33%	833,333.33	17,882.51	70,880.63	6,266,674.51
5	01-Nov-01	8.33%	833,333.33	15,666.69	70,880.63	5,378,127.24
6	01-Dec-01	8.33%	833,333.33	13,445.32	70,880.63	4,487,358.60
7	01-Jan-02	8.33%	833,333.33	11,218.40	70,880.63	3,594,363.03
8	01-Feb-02	8.33%	833,333.33	8,985.91	70,880.63	2,699,134.98
9	01-Mar-02	8.33%	833,333.33	6,747.84	70,880.63	1,801,668.86
10	01-Apr-02	8.33%	833,333.33	4,504.17	70,880.63	901,959.06
11	01-May-02	8.33%	833,333.33	2,254.90	70,880.63	-
Totals		100%	\$10,000,000.00	\$147,593.07	\$779,686.93	



# ***Hedged Fixed Financing Example***

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<b>Hedged Fixed Financing Example</b>		
<b>Monthly Draws</b>		
<b>Assumptions</b>		
	<b>Interest Rate:</b>	<b>8.600%</b>
<b>Original Draw Amount:</b>		<b>\$10,000,000.00</b>
<b>Capitalized Finance Charges:</b>		<b>\$403,736.48</b>
<b>Total Amount Financed:</b>		<b>\$10,403,736.48</b>
<b>Monthly Payments:</b>		<b>\$129,548.53</b>
<b>Payment Term (in months):</b>		<b>120</b>
<b>Total Annual Payments:</b>		<b>\$1,554,582.35</b>
	<b>Total Payments:</b>	<b>\$15,545,823.49</b>





# Hedged Fixed Financing Example

Hedged Fixed Financing Example					
Monthly Draws					
		Finance Rate:	8.60%		
		Total Draws:	\$10,000,000.00		
		Permanent Funding Amount:	\$10,403,736.48		
				Interest	
Month	Period	Draw Percentage	Draw Amount	Expense	Balance
0	01-Jun-01	8.33%	\$833,333.33	\$0.00	\$833,333.33
1	01-Jul-01	8.33%	833,333.33	5,972.22	1,672,638.89
2	01-Aug-01	8.33%	833,333.33	11,987.25	2,517,959.47
3	01-Sep-01	8.33%	833,333.33	18,045.38	3,369,338.18
4	01-Oct-01	8.33%	833,333.33	24,146.92	4,226,818.44
5	01-Nov-01	8.33%	833,333.33	30,292.20	5,090,443.97
6	01-Dec-01	8.33%	833,333.33	36,481.52	5,960,258.82
7	01-Jan-02	8.33%	833,333.33	42,715.19	6,836,307.35
8	01-Feb-02	8.33%	833,333.33	48,993.54	7,718,634.22
9	01-Mar-02	8.33%	833,333.33	55,316.88	8,607,284.43
10	01-Apr-02	8.33%	833,333.33	61,685.54	9,502,303.31
11	01-May-02	8.33%	833,333.33	68,099.84	10,403,736.48
Totals		100%	\$10,000,000.00	\$403,736.48	



## ***How to Get the Lowest Interest Rates***

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- Bundle projects
- Keep the financing term under 15 years
- Insure the government contract has desirable termination and non-appropriation language
- Fix interest rates at time of acceptance
- Provide limited or no energy savings guarantees
- Work only with companies with the very highest credit ratings
- Install only “safe” technologies on projects with great paybacks
- Don’t include other financing fees in rate